

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment to Part 27 of the Commission's)	
Rules to Revise Rules for Services in)	WT Docket No. 98-136
the 2.3 GHz Band and to Include Licensing)	
of Services in the 47 GHz Band)	

ORDER

Adopted: November 28, 2000

Released: December 8, 2000

By the Commission:

I. INTRODUCTION

1. In this Order, we terminate a rulemaking proceeding commenced in July 1998 concerning licensing and service rules for the 47.2-48.2 GHz (47 GHz) band.¹ As fully discussed below, we find that the record in this proceeding provides an insufficient basis upon which to establish service rules for the spectrum. Rather than establishing service rules that may not be suitable for future licensees of this spectrum, we conclude that the best course is to direct Commission staff to further investigate potential uses of the 47 GHz band.

II. BACKGROUND

2. The 47 GHz Notice of Proposed Rulemaking grew out of the Millimeter Wave proceeding that originally proposed to make available a total of 18 gigahertz of spectrum in the frequency range between 40.5 GHz and 153 GHz, on a shared basis with Government users, for the commercial development of short-range wireless radio systems.² On March 20, 1996, Sky Station International, Inc.

¹ Amendment to Parts 2, 15, and 97 of the Commission's Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, International Harmonization of Frequency Bands Above 40 GHz, Petition of Sky Station International, Inc. for Amendment of the Commission's Rules to Establish Requirements for a Global Stratospheric Telecommunications Service in the 47.2-47.5 GHz and 47.9-48.2 GHz Frequency Bands, RM-8784, Amendment to Part 27 of the Commission's Rules to Revise Rules for Services in the 2.3 GHz Band and to Include Licensing of Services in the 47 GHz Band, WT Docket No. 98-136, *Memorandum Opinion and Order on Reconsideration and Notice of Proposed Rulemaking*, 13 FCC Rcd 16947 (1998) (47 GHz Notice).

² Amendment of Parts 2 and 15 of the Commission's Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, *Notice of Proposed Rulemaking*, 9 FCC Rcd 7078 (1994). The term "millimeter wave spectrum" is taken from the fact that the wavelength of radio signals on (continued....)

(Sky Station) filed a Petition for Rulemaking requesting that the Commission authorize use of the 47 GHz band for a new commercial, licensed service described as the Global Stratospheric Telecommunications Service and that the Commission adopt service rules either in the Millimeter Wave proceeding or in a separate rulemaking to implement the service. Concurrently with filing its Petition for Rulemaking, Sky Station filed an application for authorization to construct and operate its proposed service to provide a global network of wireless communications services, subject to amendment pending the outcome of its Petition.

3. On July 21, 1997, partially in response to Sky Station's Petition, the Commission allocated the 47 GHz band for commercial use and divided the band into five pairs of 100 megahertz channels, separated by 500 megahertz.³ For reasons of administrative efficiency, the Commission subsequently separated the 47 GHz proceeding from the rest of the Millimeter Wave proceeding and issued a new Notice of Proposed Rulemaking for the 47 GHz band (*i.e.*, the *47 GHz Notice*).⁴ In the *47 GHz Notice*, the Commission observed that using the newly adopted Part 27 service rules for the 47 GHz band could provide for greater flexibility in the types of services that could be provided and in the technical and operational rules that govern those services.⁵ Accordingly, in the *47 GHz Notice*, the Commission proposed to modify Part 27 of the Commission's rules to include the entire range of services that may be provided at 47 GHz under the United States Table of Frequency Allocations. In addition, in a few instances, the Commission proposed that modifications to the Part 27 rules be made applicable to the 2.3 GHz band.

4. The record in the 47 GHz proceeding closed on October 13, 1998. Thirteen comments and four reply comments were filed in the proceeding. The comments, for the most part, are brief, addressing few of the technical issues raised in the *47 GHz Notice*. Three parties filed comments generally supporting the use of the 47 GHz band for stratospheric platforms,⁶ and two satellite operators and a satellite trade association filed comments raising concerns about the use of the band for this type of technology.⁷ Comments filed by other parties were confined to single issues.⁸

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frequencies between 30 GHz and 300 GHz ranges between 10 and 1 millimeters, respectively. *Id.* at 7078 (para. 1 n.1).

³ Amendment of Parts 2 and 15 of the Commission's Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, *Second Report and Order*, 12 FCC Rcd 10571, 10600 (para. 82) (1997).

⁴ See n. 1, *supra*.

⁵ *47 GHz Notice*, 13 FCC Rcd at 16969-70 (paras. 54-55).

⁶ Comments of Angel Technologies Corporation; Comments of Sky Station International, Inc.; Comments of Wireless Power & Light Corporation.

⁷ Comments of Hughes Communications, Inc.; Comments of Lockheed Martin Corporation; Comments of the Satellite Industry Association.

⁸ Joint Comments of Coloma Wireless, L.L.C. and Triad Cellular Corporation (2.3 GHz operators supporting amendment of the 2.3 GHz Part 27 rules and supporting the use of the 2.3 GHz band for Satellite Digital Audio Radio Service); Comments of Little Shell Pembina Chippewa Band (supporting service to rural areas); Comments of the National Academy of Sciences' Committee on Radio Frequencies and Comments of the National Radio Astronomy Observatory (protection of radio astronomy service in adjacent bands); Comments of Petroleum (continued....)

III. DISCUSSION

5. We conclude that the record in this proceeding is not sufficiently developed to permit us to issue meaningful final service and licensing rules, and therefore terminate this proceeding. Few parties submitted comments in response to the *47 GHz Notice*. Of those comments that the Commission received, the majority were brief and addressed few of the issues on which we sought comment. Most commenters did not address the relevant technical issues.

6. Even where there was a limited development of the record, the record is mixed with respect to interference issues.⁹ The record lacks necessary information on how to protect against interference between terrestrial users and satellite users that are adjacent geographical area licensees. This problem is exacerbated by the fact that one of the principal technologies contemplated for this band is the novel stratospheric-based platform technology. That technology's principal proponent, Sky Station, has recently indicated that its ongoing system redesign necessitates different requirements than had previously been identified in this docket.¹⁰ Without this technical information, we are unable to establish workable interference rules.

7. We note that the actions of the two parties most interested in this spectrum when we began this proceeding suggest its termination is appropriate. Recently, Sky Station filed a letter with the Commission requesting that the Commission terminate, without prejudice, the 47 GHz proceeding in light of its ongoing system redesign as mentioned above.¹¹ Sky Station indicates that it intends to make appropriate filings upon the completion of its system redesign, but that in the meantime it is clear that this particular proceeding should no longer remain pending. We also note that the other party that expressed significant interest in the 47 GHz band has indicated a desire to use the same stratospheric-based platform technology that it proposed here at 28 GHz under the Commission's Local Multipoint Distribution Service rules.¹² Likewise, since Sky Station filed its Petition for Rulemaking other frequency bands have

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Communications, Inc. (designation of the Gulf of Mexico as a Regional Economic Area Grouping); Comments of Rand McNally & Company (use of Major Trading Area and Basic Trading Area listings); Comments of Winstar Communications, Inc. (39 GHz operator addressing spectrum aggregation limits).

⁹ For instance, Hughes Communications, Inc. states that there will be an interference problem between co-frequency and geographically adjacent licensees and that Sky Station's proposal to use a general coordination approach for all transmitters within 200 km on either side of a service area boundary is unworkable given the nature of many of the satellite systems, as well as the stratospheric-based platform system, proposed for the band. *See Reply Comments of Hughes Communications, Inc.* at 2-3.

¹⁰ More specifically, Sky Station states that it has been pursuing the development and redesign of its system in response to the rapid introduction of new broadband telecommunications technologies and evolving market requirements and that these changes necessitate somewhat different requirements than it had previously identified in the record. *See Letter to Magalie Roman Salas, Secretary, Federal Communications Commission, from Alexander P. Haig, Chairman and Chief Executive Officer, Sky Station International, Inc., WT Docket No. 98-136, Nov. 22, 2000.*

¹¹ *Id.*

¹² *See Letter to D'Wana Terry, Esquire, Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Robert L. Pettit, Counsel to Raytheon Systems Company, Dec. 22, 1999.*

been recognized on an international basis for use of stratospheric-based platforms.¹³ Given these recent developments, it is unclear at this time that there is sufficient interest in the 47 GHz band to proceed with promulgating service, licensing, and operating rules based on the current record.

8. Based on this record, we conclude that we should not adopt final rules at this time. Instead, as a matter of efficient spectrum management, we believe staff should continue to explore the best use for this spectrum. We believe that the 47 GHz band could hold considerable promise for the development of new and innovative technologies and services, such as those associated with stratospheric-based platforms. We wish to promulgate services rules that allow for this potential. Given the dynamic nature of the wireless industry and the evolution of wireless technology, however, we have determined after careful review of the record that the best course of action is to terminate this proceeding.

We note, though, that this decision to terminate the 47 GHz proceeding should not have an immediate adverse impact on the use of the 47 GHz band by stratospheric-based platforms because currently, other than Broadcasting-Satellite Service ("BSS") feeder links, no fixed-satellite applications are being accepted for this band.¹⁴ We direct Commission staff to further explore with any interested parties possible uses of the 47 GHz spectrum, including use by stratospheric-based platforms and other technologies, so that meaningful rules can be proposed and finalized.¹⁵

IV. ORDERING CLAUSE

9. Accordingly, pursuant to Sections 1, 4(i) and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i) and 332, IT IS ORDERED that this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

¹³ See Footnote S5.BBB to the International Table of Frequency Allocations; Resolution [COM5/13] (WRC-2000).

¹⁴ See Resolution 122 (WRC-2000) (continuing limitation on acceptance of applications to stratospheric platform uses and BSS feeder links).

¹⁵ In a few instances, the *47 GHz Notice* proposed codifying and conforming certain rules for the 2.3 GHz band. We have recently transferred the record on that issue to another proceeding and we will address those issues in that proceeding. See *The 4.9 GHz Band Transferred from Federal Government Use*, WT Docket No. 00-32, *Notice of Proposed Rulemaking*, 15 FCC Rcd 4778 (2000).